Globalisation, property rights and knowledge networks

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Abstract: This conceptual paper introduces the important link between law and
knowledge resources. We analyse the three key types of institutions: common law, civil law, and social norms, conventions and how they define the nature of property rights for knowledge resources and assets. Knowledge, because of its intangible nature and value, raises fundamental issues of, measurement and property rights that do not arise for more traditional, tangible assets. We provide a conceptual analysis on how to measure and assess the value of property rights for knowledge assets and knowledge networks. A key conclusion from our analysis is that informal institutions such as social norms and conventions are relatively superior to legal institutions such as common law and civil law in the analysis of property rights of knowledge assets and knowledge networks.

Keywords: property rights; law; common law; civil law; social norms; conventions; knowledge networks.


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1 Introduction

We believe that law and property rights can shed new light on such issues; based on the theory of ‘exchange’. In an earlier article, Toyne (1989) has emphasised the importance of exchange in international business research, however it has been relatively neglected by researchers. This in turn raises issues of public policy and collective action (Olson, 1965) and their connection to international business research. The importance of knowledge, and knowledge assets have been indirectly connected to globalisation issues. Kogut and Zander (1992) have advocated a more evolutionary approach to MNEs linked to knowledge internalisation; as foreign direct investment (FDI) becomes increasingly ‘knowledge-based’ and mobile (Rugman and Verbeke, 1998a), strategic alliances and strategic networks are increasingly creating a type of alliance capitalism (Dunning, 1993; Gerlach, 1992; Eden, 1991) that requires tacit, informal knowledge transfer between MNEs and governments, again raising issues of public policy and collective action (Olson, 1965). Of course, Johnson (1970) and Magee (1977) in earlier works have shown how the MNE may try to own such know-how and knowledge to overcome these public good issues.

In this conceptual paper, we show why both issues are based on a fundamental issue of uncertainty or intangibility in the value of resources or assets and can be addressed through a single framework. To develop our framework, we incorporate concepts from comparative international law, especially that of ‘property rights’. The paper thus attempts to respond to recent calls by leading researchers to broaden the scope of international business research. For example, Arpan (1997) in an AIB Presidential address has raised the issue of international business research that broadens its scope of topics, geographies and methodologies. Similar issues have also been raised by Boddewyn and Iyer’s (1999) and Buckley and Chapman’s (1996) reviews of international business research and the need for more diverse, interdisciplinary and comparative analysis. In this paper, we attempt to link international business research with
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comparative law and the concept of property rights. We address one fundamental question: the problem of property rights when there is high ‘intangibility’ or ‘uncertainty’ towards value and ownership.

The purpose of this paper is to provide a conceptual framework for incorporating the concept of property rights. By linking law with international business, we believe provides a link for development research as well as knowledge research. Any cooperative relationship, such as alliances or networks seen in a dynamic setting, requires an analysis of property rights or an actor’s rights and the network members’ incentives and interests (Schelling, 1960; Emerson, 1976; Hardin, 1982; Fligstein, 1996; Cook, 1987; Easterbrook, 1997). Our framework tries to follow a more collective action (Olson, 1965) approach, providing a linkage to the new literature on MNEs and public policy (Rugman and Verbeke, 1998a). Our theoretical framework in this paper is rooted in the concept of, property rights (Barzel, 1982, 1997; Demsetz, 1967; Alchian, 1965; Cheung, 1969). We thus rely on an interdisciplinary approach, based especially on research in social anthropology and law, as well as international business and strategic management; Casson (1996) has also shown the potential contributions of anthropology researchers to understanding the nature of markets.

2 Institutions: common law, civil law, norms

A recent topic of research in law and formal institutions is that of comparative law. The legal systems in most of the developed economies of the world are based on one of two systems: common law, which is prevalent in Anglo-Saxon countries such as the USA, UK, Canada, Australia and many of the former British colonies and civil law, which is prevalent in continental Europe, South America and most of Asia. A major difference between these two major legal systems is that common law requires heavily on courts for decision making, whereas civil law tends to require more on legislature and the role of the state in decision making. Another analogous comparing the two systems was that civil law is the world of scholars which common laws is the world of judges (Dawson, 1968). Research summarising the differences between the two systems include Mattei (1994), Ajani (1995), Ewald (1995), Schlesinger (1995), Posner, (1992).

There is increasingly the phenomenon of legal ‘transplants’ or the adaptation of ideas and frameworks from one system to the other system’s ideas and frameworks.

Much of the research done in the Anglo-Saxon countries using the common law tradition tend to analyse the borrowing and transplanting of law and formal institutions as due to economic and market efficiency reasons (Mattei, 1994; Agostini, 1988). However, recent research has shown that the borrowing of frameworks from one system to another is driven as much by social, historical, and political reasons as with economic ones (Mattei, 1994). In terms of the two systems, earlier this century civil law ideas from continental Europe were exported to the common law Anglo-Saxon countries such as the UK and the USA; in more recent years, common law ideas and frameworks have been the greater export in world legal transplant terms, especially into emerging regions such as Eastern Europe (Mattei, 1994).

In terms of formal institutions such as the two types of law, and informal institutions such as norms and conventions (North, 1990), there is a general belief that the modernisation of societies will lead to a greater use of formal institutions (Posner, 1992). This is certainly true in Anglo-Saxon countries, which are increasingly linking law to
economic efficiency, as evidenced by the tremendous growth in the disciplines of law and economies in these countries; however, this discipline has not seen a similar growth in the civil law countries of continental Europe and Japan (Mattei, 1994). The increasingly influence of economic and market efficiency, and the role of corporations has emphasised the greater role of formal institutions such as law, especially a law determined by courts and judges, rather than by scholars and the state; the seeming superiority of common law over civil law. The differences among the two formal, legal institutions and the informal institution of norms are shown in the figure below.

**Figure 1** Typology of institutions – relative superiority ranking

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Main characteristics</th>
</tr>
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<tbody>
<tr>
<td>Courts (market)</td>
<td>Common law system prevalent in Anglo-Saxon countries such as the USA, UK, Australia, Canada. These court systems rely heavily on ‘market’ reasoning and economic efficiency logic, which is why the disciplines of law and economics are thriving in these countries. This institution is seen as superior to the other two.</td>
</tr>
<tr>
<td>Legislature (state)</td>
<td>The state is much more involved in civil law countries. Here, the state and legislature as well as academic scholars have a great influence on the institutions. Civil law countries include all of the world except the Anglo-Saxon countries and former British colonies. The linkage between law and economic or market efficiency is much weaker in this system.</td>
</tr>
<tr>
<td>Norms (communities)</td>
<td>These informal institutions are based on the conventions, norms, customs of a particular community or society. Trust, and personal relations, kinship relations are crucial in these systems. In most countries, norms which are informal institutions are combined with the formal institutions of either courts, common law or the legislature and state, civil law.</td>
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</table>

The economic or market factor in turns makes informal institutions such as norms, conventions, customs seem even more inferior; norms are informal rules that govern collective behaviour, and that are determined collectively and enforced nonlegally. Norms are seen to be fuzzy, historical and difficult to enforce; norms are also seen as especially ineffective during rapid change, especially technology based change (Posner 1992). In contrast, the importance of converging on a particular norm that allows coordination and effective exchange originates from Schelling’s (1960) idea of ‘focal points’ or areas of salience that different actors can converge and agree upon to make mutually beneficial decision (Young, 1996; Sugden, 1989; Humphrey and Hugh-Jones, 1992). In the case of developing countries undergoing rapid economic change, Ostrom (1990) has shown that the continuation of informal institutions such as norms and conventions are crucial to the foundations of social capital and other coordination mechanisms; Olson (1992) has made similar points regarding the transition in Eastern European countries, in that a major difficulty of transition if determining which new
formal institutions such as law, and existing informal institutions such as norms can be effectively combined for national economic and business success.

This general trend in the common law Anglo-Saxon country researchers has thus lead indirectly to a ‘ranking’ of the three types of institutions. The common law and the role of judges and courts is seen as most superior, in that such decision making can combine law with economic and market efficiency criteria. In turn, as a legal system, the civil law of continental Europe and Japan, with its emphasis on scholars, legislature and the ‘state’ is seen as overly abstract and not sufficiently taking into account the economic efficiency factors (Mattei, 1994, 1994b). Both of these formal, legal institutions are then unequivocally seen as superior or informal institutions such as norms, conventions. This relative ranking is shown in the figure below.

Figure 2 With tangible value, the institutional ranking is - Courts (market), Legislature (state), Norms (society) (see online version for colours)

![Diagram showing institutional ranking with tangible value.]

leads to the following ranking of institutions –

- Asset quality: tangible
- Transaction rules: transparent
- Actors’ identity: not crucial

Courts (markets) → Legislature (the state) → Norms (community)

However, when knowledge becomes a major factor, and intangibility becomes critical, the relative rankings could become ‘reversed’. This is shown in Figure 3 below.

Figure 3 With ‘intangible/knowledge’ value, the institutional ranking is: Norms (society), Legislature (state), Courts (market) (see online version for colours)

![Diagram showing institutional ranking with intangible value.]

leads to the following ranking of institutions –

- Asset quality: intangible
- Transaction rules: not transparent
- Actors’ identity: crucial

 Norms (community) → Legislature (the state) → Courts (market)
3 Formal law and informal social conventions

Conventions develop in socio-economic systems. These are social interpretations, norms, rules and legitimisation processes that constrain action and create typical behaviour patterns (Jones et al., 1997). In fact, “it would scarcely be an exaggeration to say that almost all economic and social institutions are governed to some extent by convention” [Young, (1996), p.105]. In this context conventions do not work as teleological mechanisms but as co-evolving mechanisms that create order out of uncertainty and randomness of socio-economic system behaviour. How do conventions arise? A typical setting where conventions become crucial is the situation where two cars approach each other from opposite directions in a two-way road and there is no law to determine which side each should take. In game theory terminology, this is a game with more than one Nash equilibriums and there is nothing intrinsic to the game itself that would allow rational actors to deduce what side they should take (Schelling, 1960; Sugden, 1989). This is where conventions come into play and a convention is defined as an established pattern of behaviour “that is … expected and self-enforcing” or, using systems terminology, a convention is “an equilibrium that everyone expects in interactions that have more than one equilibrium” [Young, (1996), p.105].

Following Arrow (1971, p.22) and Young (1996) conventions are distinguished between ‘formal’ and ‘informal’. Formal conventions are defined as being designed and dictated from the top. Expanding on Young’s argument we believe there are two ways in which formal conventions become internalised by the population: sheer enforcement and positive predisposition. People follow formal conventions because of the enormous power that the notion of authority has over the human mind (Shiller, 2000). Sheer authoritative power can internalise convention, as demonstrated by the case of the French Academy of Arts in Renaissance: As soon as a painter was accepted in the ranks of the Academy and their work was accepted at the co-called Salons exhibitions the artist was immediately recognised as excellent, and only then they could have a career and reap rewards in terms of resources (Crow, 1983; White, 1970; Homans, 1974). In this case, there is no need for the people involved to have certain shared values or experience, but only to accept the central authority that is imposing the convention and the social practices that follow from the central authority’s decision.

Proposition 1 Formal conventions established through sheer enforcement are not emergent socio-economic system outcomes. They are system outcomes that are intentionally selected and identified by a powerful authority on behalf of the actors of the socio-economic system.

Formal conventions established through positive predisposition work differently. Positive predisposition seems to be able to promote the internalisation of formal conventions and education can be conducive towards the establishment of positive predisposition. This is exemplified by the case of government support for the arts: “… national-government support [for the performing arts] has a much longer and deeper tradition in Europe than in the United States” and “such support has educational benefit” [Vogel, (1998), p.288]. In other words, the government initiative to culturally educate people – thus conditioning them to be at least positive towards the arts – has created a formal convention that drives demand for the arts. The power of positive predisposition for the establishment of formal convention is also demonstrated in the case of the French Government decree to drive on the right side. This formal convention was unopposed and unanimously accepted by the
French people not only because of fear of the new authority but also because people shared the common value of ‘democracy’: “The previous custom had been for carriages to keep left and for pedestrians to keep right, facing the oncoming traffic. Changing the custom was symbolic of the new order: going on the left had become politically incorrect because it was identified with the privileged classes; going on the right was the habit of the common man and therefore more ‘democratic’” [Young, (1996), p.106]. This example demonstrates that the two mechanisms for internalising formal conventions – sheer enforcement and positive predisposition – are not mutually exclusive and can work together in a self-reinforcing manner.

Moreover, as Shiller (2000) pointed out [quoting Milgram (1974, p.123)] people can follow authority not only because it is thought that humans possess an instinct of obedience, but also because humans seem to be conditioned to believing experts – they accept the judgement of somebody who they are convinced knows more than they do. We posit then that positive predisposition can be induced via expert opinion. However, the less people believe somebody is an expert they less they tend to value and follow the expert’s authority. Therefore, experts’ authority depends also on "people’s past learning about the reliability of authorities" [Shiller, (2000), p.151]. So as long as the authority that decrees a formal convention can convince people of its expertise, the convention survives and works. In this case, the internalisation of a formal convention is conditional on the parties involved sharing certain values [in this case values regarding the reliability of experts]. The case of the French Academy of Arts in Renaissance is not a case of positive predisposition via expert opinion because the French Academy, although an expert, did not need to assert its expertise as it had draconian control over the arts.

3.1 Informal conventions

Informal conventions are defined as emerging from the base rather than being decreed from the top. The establishment of informal conventions is rooted in the fundamental human ability to incessantly communicate facts from one person to another – word-of-mouth communication. People are very good at word-of-mouth communication of facts about everyday life (rather than abstract notions) and word-of-mouth communication has the most powerful impact on our behaviour (Shiller, 2000). Informal conventions are information cascade phenomena (Bikhchandani et al., 1992) which arise when there is uncertainty in the environment and difficulty in assessing quality. In this case it has been observed that decision makers follow the decisions made by previous decision makers in making their own decisions, even when their own information suggests doing something quite different. Thus the act of using information contained in the decisions made by others makes each person’s decision less responsive to their own information and hence less informative to others. Hence there is a “failure of information about true fundamental value to be disseminated and evaluated” [Shiller, (2000), p.152]. Information cascade accelerates network externalities, such as herding towards certain choices, lock-ins and increasing returns for those ‘selected’ choices (Arthur, 1994; Choi and Lee, 1996; Schelling, 1978).

As discussed above, identification of certain socio-economic system outcomes can be deterministic (formal conventions through sheer enforcement), semi-emergent (formal conventions through positive predisposition) and purely emergent (informal conventions). However, in the internet age of today, informal conventions are increasingly dominating formal ones because of the increasingly pluralistic nature of
society. For instance, in the 19th Century the Impressionists managed to substitute the institutional role (central authority creating conventions by decree) that the Academy used to enjoy in the French arts, with a more pluralist institutional environment made up of a network of art critics, museums and dealers (Wijnberg and Gemser, 1999). This example demonstrates that with time societies move to more pluralistic states. This is why complexity theory is employed and the process of identification of socio-economic system outcomes is modelled as an emergent process primarily driven by informal conventions. Complexity theory posits that a complex system cannot be intentionally forced towards a predetermined outcome. Therefore, we cannot expect formal conventions per se to push socio-economic systems towards desired equilibriums. However, formal conventions through positive predisposition play an ancillary role of reinforcing the establishment of informal conventions. Then, formal and informal conventions can work in tandem to identify and establish socio-economic system outcomes. The identification of exchange value associated with certain socio-economic actors is treated as a socio-economic system outcome driven by conventions, as shown in Figure 1. In other words, we posit that when conventions are absent exchanges follow the anonymous market mechanism whereas with conventions present exchange value becomes directly associated with actor identification.

4 Knowledge in international business

Traditional, neo-classical based markets depend on the anonymous, frictionless exchange among many atomistic actors. This framework allows, independent decision making by actors, following the pursuit of individual rationality, and exclusive exchange and ownership of resources. A fundamental area where such analysis is weakest is that of public resources or goods, which depend on collective and interdependent actions and decision making (Olson, 1965; Hardin, 1982; Ostrom, 1990); increasingly the technology of the internet is seen to be creating such as public type of society. Public resources and the closely related area of common pool resources (CPR) require the analysis of such joint or nonexclusive ownership of resources (Barzel, 1997). This in turn influences the creation and appropriation of such resources. The theory developed in this paper is that, 'knowledge' has fundamental characteristics of such public goods and common pool resources (CPR), and thus require analysis that takes into account such issues of collective action (Hardin, 1982) and interdependence among the actors.

In terms of management and social science research, there has been a growing interest in the role of knowledge (Polyani, 1957; Hayek, 1949) in society. The application of knowledge to management research and organisational success has been carried out further in works such as Spender (1996) and Grant (1996). If knowledge is relatively tacit and implicit (Polyani, 1957), the nature of exchange and transactions cannot be the same as for the exchange of tangible assets such as capital, plants, equipment. However, these past works on knowledge have not analysed the nature and problems of collective action (Hardin, 1982; Ostrom, 1990) towards public goods CPR’s such as knowledge; the intangibility of knowledge adds a further complication in that knowledge based resources contain problems of measurement and identification.

Although the increasingly vast management research on strategic alliances and collaborative partnerships has required the analysis of cooperation, the related concepts of exchange, and collective action that are fundamental to such cooperation have not been
widely researched in management. The concept of exchange is crucial for research in most of the social science disciplines; it is especially relevant for analysing cooperative relationships. As a concept, exchange is broader in scope than that of the firm or networks, and has a weakness in that it does not have a central definition in research within the social science disciplines (Toyn, 1989). In economics research, exchange involves a transfer of multipurpose money, and leads to self-gain for the actors in the exchange, as a general part of individual rational behaviour (Ostrom, 1990). To anthropologists, exchange is important in terms of the function it can play for a particular group of actors, or organisations (Toyn, 1989). In psychology and sociology research, exchange is seen as a joint outcome of a relationship between actors (Etzioni, 1988). Although, a central definition of exchange is lacking in social science research, the research takes for granted that a particular, tangible object, asset or resource is being exchanged in the process.

Knowledge based resources and assets raise a crucial question of the effectiveness of particular formal legal institutions, and informal institutions such as norms. Firstly, how does the nature of exchange in networks differ from the nature of exchange in markets, for non-knowledge resources, whose value is easier to measure and much more tangible (Choi, 1992)? There are also general differences between the assumptions of atomistic markets driven by actors and their individual self interest, to the concept of a social market exchange (Blau, 1964), where the collective actions of actors, linked by a social bond can affect the nature of exchange and enforcement of agreements (Etzioni, 1988; Hardin, 1982).

5 Uncertainty and knowledge sharing

In terms of defining data, information and knowledge, data are measures of the level of a variable (Bohn, 1994), information is defined as data that has been given a structure and knowledge is information that has been given a meaning by an organisational or individual interpretation process (Glazer, 1998; Huber, 1991; Weick, 1979). Knowledge codification reduces the cost of knowledge acquisition because codified knowledge becomes searchable, identifiable, accessible, transferable, reproducible and storable (Cowen and Foray, 1997; Simon, 1982; Berry and Diener, 1991). However, knowledge can remain tacit (Nelson and Winter, 1982) and tacit knowledge has a central contribution to knowledge generation and distribution (Schacter, 1987, 1989; Singley and Anderson 1989; Senker, 1995). Tacit knowledge is more difficult to formalise, impart, exchange, or purchase because it resides in peoples’ beliefs, experiences, values, organisational routines, and institutions (Inkpen, 1998).

Researchers in social anthropology, and evolutionary psychology like, Cosmides and Tooby (1992) have shown that within communities there is a tendency towards greater collaboration and ‘sharing’ when there is significant ‘variability’ in the environment. The term variance refers to an increase in uncertainty, difficulty and randomness for actors to obtain basic survival ingredients such as food (Hill, 1995). When variance increases there is a tendency for these communities to share valuable resources in a reciprocal manner. When variance decreases the actors become relatively more competitive and anonymous in their exchanges, and community-wide sharing decreases (Hill, 1995; Cashdan, 1980).

From the above examples we can then draw an analogy between variance and the uncertainty associated with the globalisation of business - the increase in uncertainty due
to rapid change and developments in technology, communication - the information revolution. Similar to increased variance or a crisis bringing together the actors in a community, variance in global uncertainty can compel firms to create knowledge sharing alliances. When uncertainty decreases, such as when an industry matures, then the firms in turn will become more arms-length competitive, anonymous, market transaction driven and reciprocal sharing of knowledge will decrease. This will tend to shift the actors’ behaviour from reciprocal sharing of knowledge to anonymous, transactional exchange of information. Moreover, because tacit knowledge is context and situation specific it will tend to be communicated via reciprocation and sharing, whereas codified knowledge and information can be exchanged though the anonymous market mechanism. Thus,

**Proposition 1**  When the uncertainty in a business environment increases there is an increase in knowledge sharing alliances, networks and a subsequent increase in reciprocal exchange of tacit knowledge between firms. When the uncertainty in a business environment decreases, reciprocal exchange of tacit knowledge decreases and there is an increase in anonymous, market-based exchange of codified, explicit information. Thus, as uncertainty increases due to rapid and continuous changes in the global business environment, reciprocal knowledge sharing alliances and networks will proliferate; Beamish and Killing (1997) and Gulati (1998) provide recent comprehensive reviews of the literature on global strategic alliances and networks. There is clear evidence that the global business environment has seen an increase in such collaborative partnerships in recent years (Dunning, 1993; Gerlach, 1992).

### 6 Property rights, cooperation, exchange

The concept of ownership, and property has traditionally been analysed in two extreme frameworks. The more liberal paradigm traced back to Adam Smith, and neoclassical economics and to seventeenth century thinkers such as Locke and Hobbes, who showed the superiority of private property rights, competitive markets, individual actor decision making (Hahn, 1998). This paradigm has also emphasised the tangible nature of value in resources; thus analysis of knowledge has tended to focus on the linkages to more tangible resources such as technology. In contrast, the more collective, social and institutional framework can be traced to Marx and other social thinkers, and more recently by institutional economists such as North (1990). Although the liberal competitive market based paradigm has gained popularity among international business and social science researchers, one clear weakness of this paradigm has been shown in the area of environment and other natural resources (Rugman and Verbeke, 1998b). We believe that ‘knowledge’ assets, and especially knowledge based strategic alliances and networks raise similar collective action (Olson, 1965) issues as the more widely researched public policy issues towards the environment. Thus, although the problem of knowledge as a public good has been recognised by international business researchers at least since Johnson (1970) and Magee (1977), there has been insufficient analysis of the property implications of this issue, given the rapid worldwide developments of strategic alliances and networks.
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We believe that a definition of property and ownership that more accurately describes the essence of knowledge based resources within networks and strategic alliances is provided by the social anthropology definition of property:

“...the essential nature of property is to be found in social relations rather than in any inherent attributes of the thing or object that we call, 'property'...property is not a thing, but a network of social relations...”
(Hoebel, 1966).

The pure neoclassical, competitive market paradigm focuses on property rights in the context of formal legal codes and competition, leaving out the cultural and institutional context of social relations; the social anthropology definitions incorporate both. This social anthropology definition of property more accurately describes the collective nature of not only environment and natural resources, which are clearly seen to justify collective action (Olson, 1965) and public policy (Rugman and Verbeke, 1998; Albert, 1991), but the intangible, tacit, and changing nature of knowledge as an asset and resource for MNEs in the international business environment.

The cooperative and collaborative nature of strategic alliances and networks requires the analysis of collective shared values (Etzioni, 1988; Olson, 1965; Hardin, 1982), since a particular actor’s incentives and interests may diverge from other actors in the community. Although there is a vast literature in international business and strategic management on networks (Granovetter, 1985; Burt, 1992; Gulati, 1998; Jones, 1983), we believe that the above issues of exchange, property rights, and collective ownership have not been sufficiently analysed. Such issues however, have been fundamental to research in social anthropology (Sahlins, 1972; Simmel, 1978; Levi-Strauss, 1969; Blau, 1964; Ekeh, 1974), law and economics (Coase, 1960; Bernstein, 1992; Alchian, 1965; Posner, 1992; Ostrom, 1990; Landes, 1971) and political science (Ostrom, 1990; Olson, 1965; Hardin, 1982). These past works have analysed the nature of exchange as a process, as well as the divergence of incentives and interests within cooperative situations such as networks. The importance of knowledge adds a further complexity to the analysis. Although the vastly expanding research on knowledge emphasises that knowledge is tacit, informal (Polyani, 1957) and thus, unlike physical assets such as equipment, capital, difficult to acquire through the market, there is insufficient analysis on the nature of, exchange for knowledge assets, and how it is different from exchange of non-knowledge assets.

The key distinction is that tangible, physical assets such as equipment, capital have a ‘valuation’ and price determined in the market; this valuation serves as an universal, transparent mechanism to facilitate the exchange of such physical assets (Itami and Roehl, 1987; Choi and Lee, 1997). Under market exchange of commodities, assets being exchanged are tangible, quantified, valued at a particular price (Gell, 1982).Tacit, informal assets such as knowledge, are difficult to determine a valuation for, and thus, the value can be context or situation specific, or specific to particular organisations or actors (Spender, 1996; Choi and Lee, 1997). The difficulties of valuing intangible assets such as knowledge have also been discussed by scholars in accounting.
7 Defining and enforcing property rights

The nature of cooperation requires continuous exchange among the actors in the network (Burt, 1992). For such continuous exchange to occur, there is a need for the actors in the network to understand each others’ property rights. In the social science literature, there are two major definitions of property. A traditional more legal definition of property rights, which is closely concerned with the rights given by the state, and the more recent economic definition of property rights (Demsetz, 1967; Hart and Moore, 1990; Bernstein, 1992; Cheung, 1969; Boddewyn and Brewer, 1994) which is linked to the economic value of assets or resources. Based on Barzel (1997), we come up with the following definitions of property rights:

“Economic property rights are the end, what actors ultimately seek, whereas legal property rights are the means to achieve the end…”

In this paper, we are concerned with economic property rights, or the rights over economic assets and resources. Property rights require recognition as well as enforcement of the rights (Barzel, 1982; Posner, 1992; Bernstein, 1992; Demsetz, 1967; North, 1990). Legal property rights tend to be recognised and enforced by governments, the state; although Ellickson (1991) in a comprehensive study has shown that in various communities in even highly law based societies such as the USA, social enforcement can replace the role of legal contracts and agreements. Demsetz (1967) has shown that economic property rights become more important as the value of particular assets of resources increases; however, this again assumes that some type of transparent, singular, market valuation. Knowledge based resources and assets, in order to be properly developed and used, require mechanisms for coordination and exchange of assets, that take into account the transfer, capture and protection of property rights of the assets (Barzel, 1982; Posner, 1992; Bernstein, 1992).

North (1990) has indicated that, “how agreements are enforced is the single most important determinant of economic performance…” The theoretical frameworks in this paper also believe that the enforcement of agreements concerning property is crucial for the continued success of collective action towards public goods and common property resources such as knowledge. The intangibility of knowledge as an asset (Spender, 1996) makes the definition of property rights and the transfer, exchange and protection of such rights especially problematic. Enforcement of such property rights requires a much more collective ownership approach, and shared identity and value among the actors; this becomes increasingly difficult as firms develop global partnerships, and global investments that may mix actors of diverse backgrounds. According to the academic research in law and economics:

“…a system of contract enforcement is more valuable if property rights are clearly defined…better defined rights facilitate exchange, and the value of the exchange increases with the value of the right” (Rubin, 1997).

The existing research on networks and the importance of social structure and relationships among organisations (Burt, 1992; Barney and Hansen 1994; Bradach and Eccles 1989; Gulati, 1998) assumes that such enforcement is relatively automatic, ensuring a smooth transfer, and protection of economic property rights. This becomes more possible if there is an assumption about homogeneity in the backgrounds of the actors that are members of the networks. For example, in related research, Landa (1981)
and Bernstein (1992) have shown how ethnic backgrounds can play a crucial role in the formation of successful networks, which in turn rely greatly on informal, social codes and mechanisms for achieving cooperative and trust based results.

However, the actors in today’s global business environment are from diverse, heterogeneous, rather than simple, homogeneous backgrounds. The nature of global competition has created strategic networks and collaboration among actors from different nationalities, industries, cultures. The fact that such diversity complicates cooperative decision making is a well researched area in various social sciences such as social anthropology, law and economics (Schelling, 1960; Landa, 1981; Greif, 1993; Bernstein 1992; Posner, 1992), although this point has been relatively neglected in management research. This diversity is further complicated by the continuous change and uncertainty in today’s global business environment. All these factors lead to the conclusion that the enforcement of property rights of intangible assets such as knowledge in diverse global networks is not automatic.

Global networks pose an especially complex problem of property rights, because researchers in law and economics have shown the difficulties of translating or interpreting law towards economic property for diverse actors (Hayek, 1973; Kornai, 1992; Leoni, 1961). This is because words tend to be rooted in the institution of a particular actor, for example from the USA, but may not have a corresponding institution for another actor in the network, for example from Italy. As analysed in research on the development, transfer, and protection of economic property rights, such definitions of rights also have embedded in them large amounts of practical cultural knowledge, which is difficult to transfer across a group of actors in a diverse network (Rubin, 1997; Bernstein, 1992; Leoni, 1961; Posner, 1992). Thus, although the recent organisation theory literature such as Gulati (1998) assumes that diverse network creation is positive and can occur relatively easily, there are practical difficulties due to diversities of nationalities, cultures, value systems.

8 Reciprocal exchange

According to traditional economics research, markets allocate resources such as goods and services. Such allocation leads to analysis of the key economic variables of prices and quantities. The focus on tangible prices and quantity levels, allows traditional neo-classical economics to avoid the issues connecting market exchange and resource allocation and social and cultural values and identities (Granovetter, 1985; Burt, 1992; Gulati, 1998;). Strategic networks, like markets, also allocate resources. However, unlike traditional neo-classical economic markets, the vast literature on networks (Burt, 1992; Gulati, 1998; Millar and Choi, 2009) have shown that networks include a more social, and relationship dimension. Thus, it becomes difficult to separate the nature of exchange in networks, with social and cultural values and identities.

Underpinning the efficiency of pure market exchange is the assumption of perfect enforcement of agreements and the transfer and protection of economic property rights (Barzel, 1982, 1997). But because of uncertainty, incomplete and asymmetric information issues, many types of exchange even in mature economies of Western Europe and North America, which have relatively strong legal systems, have elements of, ‘reciprocal
Reciprocal exchange can be defined as types of exchange where there are informally enforced agreements between parties in exchanging goods, services (Ellickson, 1991; Choi, 1994; Kolm, 1984). Reciprocal exchange has elements of both these systems and has similarities to the ‘gift’ exchange that anthropologists have analysed in primitive and premodern societies (Mauss, 1955; Levi-Strauss, 1969; Gregory, 1992; Bourdieu, 1977, 1990; Malinowski, 1961; Sahlins, 1972). However, gift exchange or reciprocal exchange has also been commonly seen in modern societies, and has been analysed in various recent works such as Choi (1994) and Kranton (1996).

These recent works on gift or reciprocal exchange have shown that they can have various advantages over anonymous market exchange even in modern societies. Such exchange invariably has elements of, ‘trust’ in the relationship. Trust is defined as having some fate in the workings of systems or processes of which one possesses only limited knowledge. Trust is vested not just in actors such as organisations, or the state, but in some fate in the workings of systems or processes of which one possesses only limited knowledge. There is a vast literature on notions of trust throughout management and social sciences research. Some general works that analyse issues of trust in markets and organisations include, Douglas and Isherwood (1979); Choi (1994); Elster and Moene (1989); Bernstein (1992); Williamson (1985).

With knowledge based assets, even in strategic networks, it is difficult to assume that there will be relatively perfect enforcement of agreements and the fair transfer and protection of economic property rights among the actors in the network (Posner, 1992; Barzel, 1982, 1997; Rubin, 1997; Bernstein, 1992). We believe that when an asset cannot be readily exchanged in the market, we are in conflict with the foundations of what we call, ‘modern exchange’. The more recent research incorporating a more social and institutional view of exchange (Macneil, 1980; Ellickson, 1991; Etzioni, 1988; Mahoney et al., 1994) show that the exchange process itself contains value (Knight, 1921, 1935). Thus, the nature of exchange and economic property rights have to be questioned in order to find the most effective ways of exchanging knowledge and for understanding the nature of strategic networks.

In traditional Germanic law and economics, as in most of continental European countries, an actor’s economic property rights were linked to communities, thus providing closer relations among individuals, objects, professional associations and communities (Kauter, 1998; Bohm, 1980; Gurjewitsch, 1986). Such important, symbolic relations had been fundamental to researchers on ownership and property rights in continental European countries such as Bourdieu (1977, 1990), but less important for the researchers in Anglo-Saxon countries such as the USA or UK, which also follow more individual based law and economics systems (Posner, 1992; Barzel, 1997; Rubin, 1997).

Unlike such research traditions in social anthropology and law and economics, management research has tended to view identities as relatively less important, certainly in the case of market based exchange of resources. As discussed earlier, pioneering works such as Granovetter (1985), Burt (1992), Coleman (1990) have tended to contrast as two extremes, transactions in the market place, and transactions in socially embedded networks. However, in both strands of management research, there has been an implicit assumption that the asset or resource being exchanged is tangible in nature, unlike the invisible assets analysed by Itami and Roehl (1987); in this paper, we view such invisible assets as being analogous to knowledge in terms of difficulties of valuation and
measurement. Thus, the past research on networks has tended to avoid issues such as membership to networks, the enforcement of agreements within networks, and the transfer and protection of economic property rights.

The intangible, difficult to measure nature of knowledge assets (Spender, 1996) require an analysis closer to the traditional German and continental European approaches to law and economics, where there are close relations among actors, objects and communities (Kaufer, 1998; Gurjewitch, 1987; Bohm, 1980; Eggertsson, 1990). Knowledge, by definition is difficult to separate from communities and objects, and difficult to allocate to a particular actor in a strategic network. Similar to the concept of inalienable gifts (Mauss, 1955; Sahlins, 1972; Simmel, 1978, Franks and Mayer, 1997) in the social anthropology literature, knowledge assets cannot be clearly defined as assets that can be freely exchanged and valued according to market criteria of tangible prices and quantities.

### 8.1 Collective ownership and strategic networks

Collective ownership of the network requires cooperation between actors in either formal or informal settings, where the actions of the actors are interdependent (Olson, 1965; Hardin, 1982). Any type of strategic networks, to remain successful over time faces the complex issues of, collective ownership and social bonding (Etzioni, 1988; Olson, 1965; Ostrom, 1990). This is especially the case when the members of the network are from heterogeneous backgrounds and value systems. In today’s global business environment, successful strategic networks require actors from different countries, regions, professional backgrounds, incorporating such heterogeneity or diversity within the network. The traditional definition of markets in neo-classical economics assumes that an individual actor’s rationality can lead to a collective rational outcome, through the forces of the famous invisible hand. Research in other social sciences such as law and economics, social anthropology, political science, have shown however that such collective outcomes of groups, or strategic networks is not assured. This is especially the case when the size of any group, network or community is large (Olson, 1965; Hardin, 1982; Etzioni, 1988; Daim and Kocaoglu, 2009). Thus, a successful strategic network may be literally a holding company for subnetworks that in turn have their own social bonding, reciprocity and norms.

This paper has developed a typology of exchange relations. Firstly, the market exchange system followed in atomistic, neo-classical economic based competition. Secondly, the network based exchange widely researched in the existing literature; this literature does not analyse the potential breakup of network relations, due to particular actors forming their own dyadic relations away from the total network, an issue analysed in depth by Baker et al. (1998). Thirdly, a framework that accepts that social bonding and trust based exchange may be most effective in small numbers (Hardin, 1982; Blau, 1964; Sahlins, 1972; Simmel, 1972). This requires subnetworks, following their own norms and social bonds, along with more general, explicit, rules of the network.

The collective incentives, ownership of neo-classical economics and effective markets are of course about the exchange of ‘private’, rather than public assets or resources. Private resources, which are often tangible and have a market valuation, include resources such as plant, equipment, and capital. These resources have a much more clearly defined property rights, in the sense that ownership is exclusive to a particular actor and there is competitive rivalry for the resource. In the case of public
resources or assets such as scientific discoveries, weather forecasts, oil reserves, they may not be subject to competitive rivalry or to exclusive ownership (Olson, 1965; Ostrom, 1990). The intangible, collective nature of knowledge as an asset appear to be closer to such public resources or assets.

For strategic networks to be successful, they require collective interests and sharing among network members, but at the same time, will require mechanisms to, ‘exclude’ outside non-members from the benefits and knowledge of the strategic network (Hardin, 1982; Kuran, 1989). This is similar to the concept of, club goods in law and economics, whereby members of a strategic network pay a type of club fee for membership, and share collective the benefits, but at the same time exclude non-members from free riding (Olson, 1965; Sandler, 1992; Ostrom, 1990; Bearman, 1997) on the resources and assets of the strategic network. This difficulty is further enhanced when the actors in the strategic network are from diverse, heterogeneous backgrounds and value systems (Andreoni, 1990; Buchanan, 1965; Bergstrom et al. 1986; Appadurai, 1991). The definition of strategic networks developed in this paper requires the existence of subnetworks with their own norms, and aspects of social bonding.

9 Conclusions and further research

The purpose of this paper was threefold. Firstly, we tried to analyse the three major types of institutions: the two types of formal legal institutions such as common law and civil law and the informal legal institutions such as norms, conventions and the interaction among these types of institutions (Young, 1996; Sugden, 1989; Mattei, 1994; Lakhal and H’mida, 2009). Research within the law and economics literature, certainly within Anglo-Saxon countries which use common law, such as the USA and the UK, have derived an implicit ranking of the superiority of common law over civil law, and in turn of both over informal institutions such as norms (Mattei, 1994). An underlying factor driving such a relative ranking has been the emphasis on economic, market efficiency.

Secondly, we addressed the issue of whether such a ranking would be applicable to our society which is increasingly being influenced by internet technology, or our increasing ‘knowledge based’ society. We showed that the nature of knowledge, its intangibility as well as difficulties in value measurement may influence the effectiveness of formal and informal institutions. Knowledge, because of its intangibility, is created shared in relatively small groups of actors; such small groups tend to rely on norms, focal points (Schelling, 1960) and other types of social and trust based behaviours. This is also linked to the research by Ostrom (1990) and Olson (1992) who have shown that in countries undergoing transition and economic development, the informal institutions such as norms and conventions are as crucial to economic and business success as new formal, legal frameworks; we believe this analogy applies to our internet and knowledge based society.

Thirdly, in contrast to formal laws, there is informal or social conventions. Social conventions, rules of society and community have been seen as relatively less important than the rule of formal law. The increased importance of knowledge as an asset and resource may however reverse this relative importance.

Thus, a major conclusion of this paper is that in a knowledge based society, the importance of informal institutions such as norms, conventions, customs may be even more important than the formal institutions such as common law or civil law. Thus,
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Concepts such as reciprocity, a concept traditionally more commonly associated with pre-modern societies (Mauss, 1955; Sahlin, 1972; Simmel, 1978) may provide hints towards issues of collective ownership (Olson, 1965, 1982; Etzioni, 1988; Hardin, 1982; Ostrom, 1990; Liang-Hung, 2009) and the importance of subnetworks motivated by social bonds that become crucial in any knowledge based society.

Two areas warrant further research. Firstly, there is a need to further develop conceptually, how informal institutions such as norms can be effectively combined with the two major legal systems, the formal institutions of common law versus civil law. Secondly, more in-depth empirical work needs to be carried out in the effectiveness of economic property rights in knowledge based societies and how formal and informal institutions can play a role in such property right creation.

References


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